

## **REMARKS**

The rejection of Claims 4 and 5 under 35 USC 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention is respectfully traversed.

Claim 4 has been further amended to clearly provide antecedent basis for the lower chamber in the reactor. The Examiner has also stated that it is unclear how the reactor can have a single charge of granular catalyst when the reactor includes more than one reaction tube. Clearly, the Examiner misunderstands the arrangement as claimed in claim 4 which is based upon Fig. 1. The reactor may include a plurality of reaction tubes (3), which are in a coaxial symmetrical arrangement spaced apart from the reactor casing. Each reaction tube has an inner tube disposed almost in the center of the reaction tube. However, the reactor has only a single charge of granular catalyst stored in the first passage way of the reaction tubes.

Accordingly, claim 4 is now believed to be clear and definite and the rejection under 35 USC 112, second paragraph, should be withdrawn.

Claim 5 as amended depends upon claim 4 and therefore the rejection under 35 USC 112 should also be withdrawn.

The rejection of claims 4 and 5 under 35 USC 103(a) as being unpatentable over Jaeger (USP 1,945,353) is respectfully traversed. The Examiner is rejecting claims 4 and 5 as being obvious but is applying the rejection as if the rejection was under 35 USC 102 and not under 35 USC 103 at least as regards all of the claimed features except for the tube length feature. This is contrary to the MPEP and is contrary to the wording of 35 USC 103 in which the claimed invention must be judged "as a whole" and not selected features. Once the claim is looked at as a whole, the Examiner cannot ignore the requirement of the reactor in Jaeger to possess multiple converters and multiple catalyst zones. Claim 4 continues to be limited to a single charge of granular catalyst stored in the first passageway of the one or more coaxially arranged reaction tubes and forms the only catalyst charge in the reactor. The reactor disclosed in Jaeger '353 contains a separate and independent charge of granular catalyst for each of the required plurality of separate catalyst zones located in separate

locations within the reactor. Since this is an entirely different arrangement from the reactor taught and claimed in claims 4 and 5 of the subject application, the Examiner cannot treat one catalyst zone as in compliance with part of the wording of claim 4 with the rest being obvious.

Once again, the Examiner is not free to interpret claim 4 partially based upon the reasoning of a rejection under 35 USC 102 and interpret the rest of claim 4 under 35 USC 103. In a rejection under 35 USC 103, there is absolutely no basis in the teaching of Jaeger for disregarding the requirement for a plurality of separate converters and separate catalyst zones.

The requirement in claim 4 for the central tube 7 to have a length of between  $1/10$  to  $2/3$  of the length of the reaction tube is important to the arrangement of the subject invention and has no significance to the arrangement in Jaeger '353 which requires separate catalyst zones with separate catalyst charges for each zone. The synthetic reaction of methanol is exothermic. The end of the central tube 7 in the embodiment claimed by applicant has to be adjusted to the area of the catalyst layer where such exothermic reaction occurs. This is the reason for the length arrangement taught and claimed in the subject application and leads to a good release of heat which results in good temperature control of the catalyst layer. None of this is taught or may not even be relevant to the arrangement in Jaeger et al which required separate catalyst zones and separate catalyst charges. Moreover, redesigning the length of the tube is not routine experimentation. No explanation has been given by the Examiner for such "routine experimentation" for establishing a length for the central tube 7 as claimed in claim 4 based upon the arrangement taught in Jaeger. To apply so-called "routine experimentation" to the arrangement of applicant cannot be based on hindsight reasoning.

For all of the reasons given above, claims 4 and 5 as amended are clearly patentable over Jaeger '353 under 35 USC 103.

The rejection of claims 4 and 5 under 35 USC 103(a) as being unpatentable over Jaeger '511 is respectfully traversed.

The Examiner has tried to compare most of the features of claims 4 and 5 to the arrangement in Jaeger '511 as if this were a rejection under 35 USC 102 leaving the issue of

patentability of the features in the claim which cannot be compared to Jaeger under 35 USC 103. This is contrary to the MPEP and to the wording of 35 USC 103.

Claim 4 as currently amended requires the one or more reaction tubes in the reactor to be disposed in a coaxial symmetrical arrangement spaced apart from the reactor casing. In this arrangement, the reactor possesses only one catalyst charge. The Examiner is ignoring the separate zones in the catalytic apparatus taught in Jaeger '511 and is looking at the catalytic apparatus as if only one reaction tube is present in the catalytic apparatus. However, Jaeger teaches a catalytic apparatus having a plurality of catalytic zones with each catalytic zone having its own granular charge of catalyst. Moreover, the catalytic apparatus taught in Jaeger '511 depends upon a plurality of separate converters. The interpretation of Jaeger by the Examiner cannot be based partially upon the reasoning of a 35 USC 102 rejection and is not consistent with the teaching in Jaeger '511.

The reaction tubes in Jaeger '511 are not disposed in a coaxial symmetrical arrangement spaced apart from the reactor casing with each reaction tube having an inner tube disposed almost in the center of the reaction tube to form a first passageway of circular cross section, between the inner tube and the surrounding reaction tube and with the inner tube closed at the lower end thereof facing a lower chamber of the reactor, located symmetrically opposite the upper chamber and with only one granular charge of catalyst.

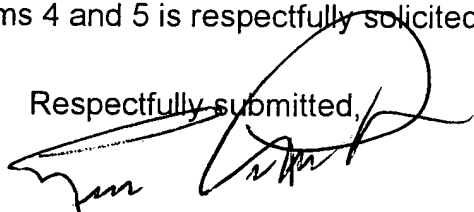
Once again, the Examiner is trying to force-fit the arrangement of applicant as taught in claim 4, into an arrangement as taught by Jaeger '511 which is based upon an entirely different principle of operation using a plurality of separate converters. Accordingly, for the Examiner to state that the length of the central tube in the subject application would be obvious for Jaeger to modify, makes absolutely no sense whatsoever without the application of hindsight and a claimed length of between 1/10 to 2/3 cannot be established by routine experimentation from the arrangement taught in Jaeger.

So-called optimum conditions mentioned by the Examiner refers to optimum conditions for the arrangement taught by Jaeger and not for the arrangement taught in the subject application, which does not employ separate converters, each of which as taught by Jaeger are independent of one another and includes its own separate catalyst charge.

For all the reasons given above, claims 4 and 5 are clearly patentable over each of the Jaeger references.

Reconsideration and allowance of claims 4 and 5 is respectfully solicited.

Respectfully submitted,



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#### MAILING CERTIFICATE

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